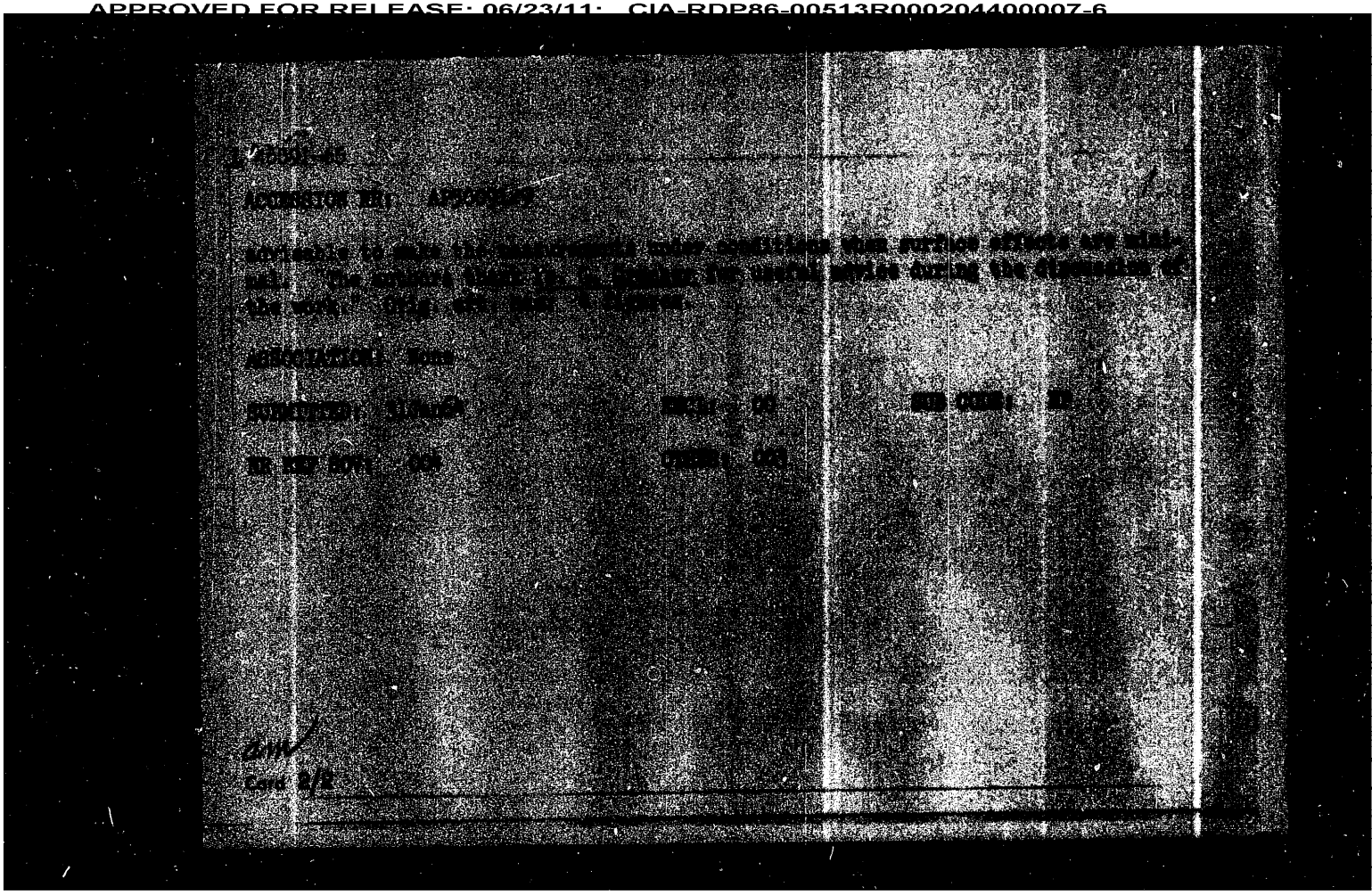


BELYAYEV, V.F.; BELOKURSKAYA, M.N.; KOCHETKOV, N.K.

Interaction between β-chlorovinyl ketones and β-dicarbonyl compounds. Part 12: Ketovinylation of ethyl α-benzoylpropionate and ethyl α-benzoylbutyrate. Zhur.ob.khim. 30 no.5: 1492-1495 My '60. (MIRA 13:5)

1. Belorusskiy gosudarstvennyy universitet i Institut farmakologii i khimioterapii Akademii meditsinskikh nauk SSSR.
(Propionic acid) (Butyric acid) (Ketones)
(Vinyl compounds)

BELOKURSKAYA, V.I.

Recent developments in examining fields for the potato nematode. Zashch. rast. ot vred. i bol. 8 no.5:41-42 Je '63. (MIRA 16:8)

1. Karantinnaya laboratoriya, [illegible].
(Potatoes--Diseases and pests)
(Nematode diseases of plants)

BELOLEPETSKAYA, T.A.; GETS, I.I.

Problem of the transition of chronic myeloleukemia into reticulosarcomatosis. Arkh.pat. 22 no.3:61-64 '60.
(MIRA 13:12)

(LEUKEMIA) (TUMORS)

BELOKURSKAYA, V.I.

Chloropicrin in controlling the potato nematode. Zashch. rast. ot vred. i bol. 4 no.5:48 S-O '59. (MIRA 16:1)

1. Direktor Vil'nyusskoy karantinnoy laboratorii.
(Chloropicrin) (Lithuania--Nematode diseases of plants)
(Lithuania--Potatoes--Diseases and pests)

BELOLIKOV, A.I.

Hydrogeological conditions of the territory of the Kama Reservoir.
Razved.i okh.nedr 28 no.4:48-50 Ap '62. (MIRA 15:4)

1. Solikamskaya kompleksnaya geologorazvedochnaya partiya.
(Kama Reservoir--Water, Underground)

BELOLIKOV, A.N.

BELOLIKOV, A.N., kandidat tekhnicheskikh nauk.

Determination of the mean error in measuring angles of a mine.
Trudy VNIMI no.25:109-141 '52. (MLRA 8:3)
(Mine surveying)

BELOLIKOV, A.N.

BELOLIKOV, A.N., kandidat tekhnicheskikh nauk.

Orientation adjustment through two vertical shafts by the method of least squares. Trudy VNIMI no.26:39-51 '52. (MLRA 8:3)
(Mine surveying)

BELOLIKOV, A.N.

Computation of errors in determination of elevation and the geographical position of points in leveling and traverse line systems. Zap. LGI 37 no.1:105-111 '58. (MIRA 12:8)
(Surveying)

BELOLIKOV, A.N.

Evaluating the accuracy of orientation through two vertical mine shafts. Zap. LGI 37 no.1:112-116 '58. (MIRA 12:8)
(Mine surveying)

KAZAKOVSKIY, Dmitriy Antonovich, prof., doktor tekhn.nauk; AVERSHIN, Stepan Gavrilovich, prof., doktor tekhn.nauk; BELOLIKOV, Antonin Nikolayevich, dotsent, kand.tekhn.nauk; GUSEV, Mikhail Iosifovich, dotsent, kand.tekhn.nauk; ZDANOVICH, Vyacheslav Grigor'yevich, prof., doktor tekhn.nauk; KROTOV, Gavriil Alekseyevich, dotsent, kand.tekhn.nauk; LAVROV, Vladimir Nikolayevich, kand.tekhn. nauk; LEBEDEV, Kirill Mikhaylovich, assistent; PYATLIN, Mikhail Petrovich, dotsent, kand.tekhn.nauk; STENIN, Nikolay Ivanovich, assistent; BUKRINSKIY, V.A., otv.red.; SLAVOROSOV, A.Kh., red.izd-va; ALADOVA, Ye.I., tekhn.red.; KOROVENKOVA, Z.A., tekhn.red.

[Mine surveying] Marksheiderskoe delo. Moskva, Ugletekhizdat, 1959. 688 p. (MIRA 13:11)
(Mine surveying)

ZDANOVICH, Vyacheslav Grigor'yevich; KELL', Nikolay Georgiyevich; ZVONAREV, Klimentiy Aleksandrovich; BELOLIKOV, Antonin Nikolayevich; GUSEV, Nikolay Andreyevich; BUGAYETS, Ye.A., otv. red.; SLAVOROSOV, A.Kh., red. izd-va; PROZOROVSKAYA, V.L., tekhn. red.

[Advanced geodesy] Vysshaia geodeziia. By V.G.Zdanovich i dr. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po gornomu delu, 1961. 607 p. (MIRA 15:1)

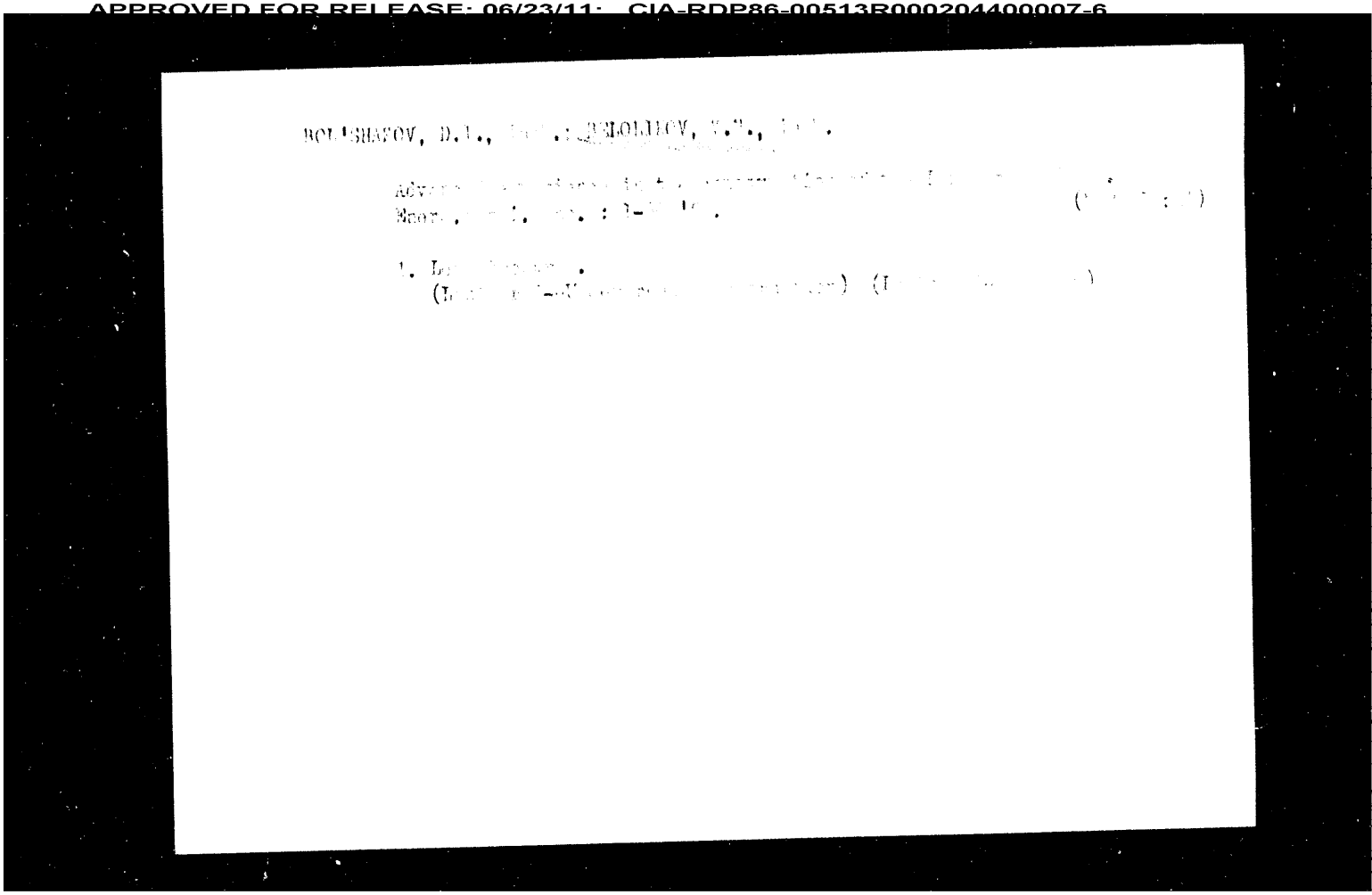
(Geodesy)

PLATONOV, V.T., inzh.; BELOLIKOV, V.N., inzh.

Use of mobile sheathing for shaft sinking. Shakht. stroi no.1:25-29 '58. (MIRA 11:2)

1. Lenmetrostroy.

(Shaft sinking)



BELOLIKOV, V.N., inzh.; MATVEYEV, G.F., inzh.

Roof of the waiting room at the Finland Railroad Station.
Biul.tekh.inform.po stroi. 5 no.12:11-12 '59. (MIRA 13:4)
(Leningrad--Railroads--Stations) (Roofs, Shell)

SOLOV'YEV, Yu.F.; BELOLIKOV, V.N.

Construction of subway stations with lining made of precast reinforced concrete. Transp.stroi. 12 no.7:22-25 Jl '62. (MIRA 16:2)

1. Glavnyy inzh. Stroitel'nogo upravleniya Leningradskogo metropolitena (for Solov'yev). 2. Zamestitel' glavnogo inzhenera Stroitel'nogo upravleniya Leningradskogo metropolitena (for Belolikov).

(Leningrad--Subways--Stations) (Tunnel lining)

KARPOV, V.V., kand.tekhn.nauk; MEYTUS, M.E., kand.tekhn.nauk; TSUKERMAN, N.Ya., inzh.; BELOLIKOV, V.N., inzh., nauchnyy red.; GREYTS, B.V., inzh., nauchnyy red.; KULIKOV, M.G., inzh., nauchnyy red.; FEDORTSOV, B.D., inzh., nauchnyy red.; GRIGOR'YEVA, I.B., red.izd-va; VORONETSKAYA, L.V., tekhn.red.

[Roofing and waterproofing operations; reference manual] Krovel'nye i gidroizoliatsionnye raboty; spravochnoe posobie. Pod obshchei red. V.V.Karpova. Leningrad, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam, 1961. 302 p. (MIRA 14:6)
(Roofing) (Waterproofing)

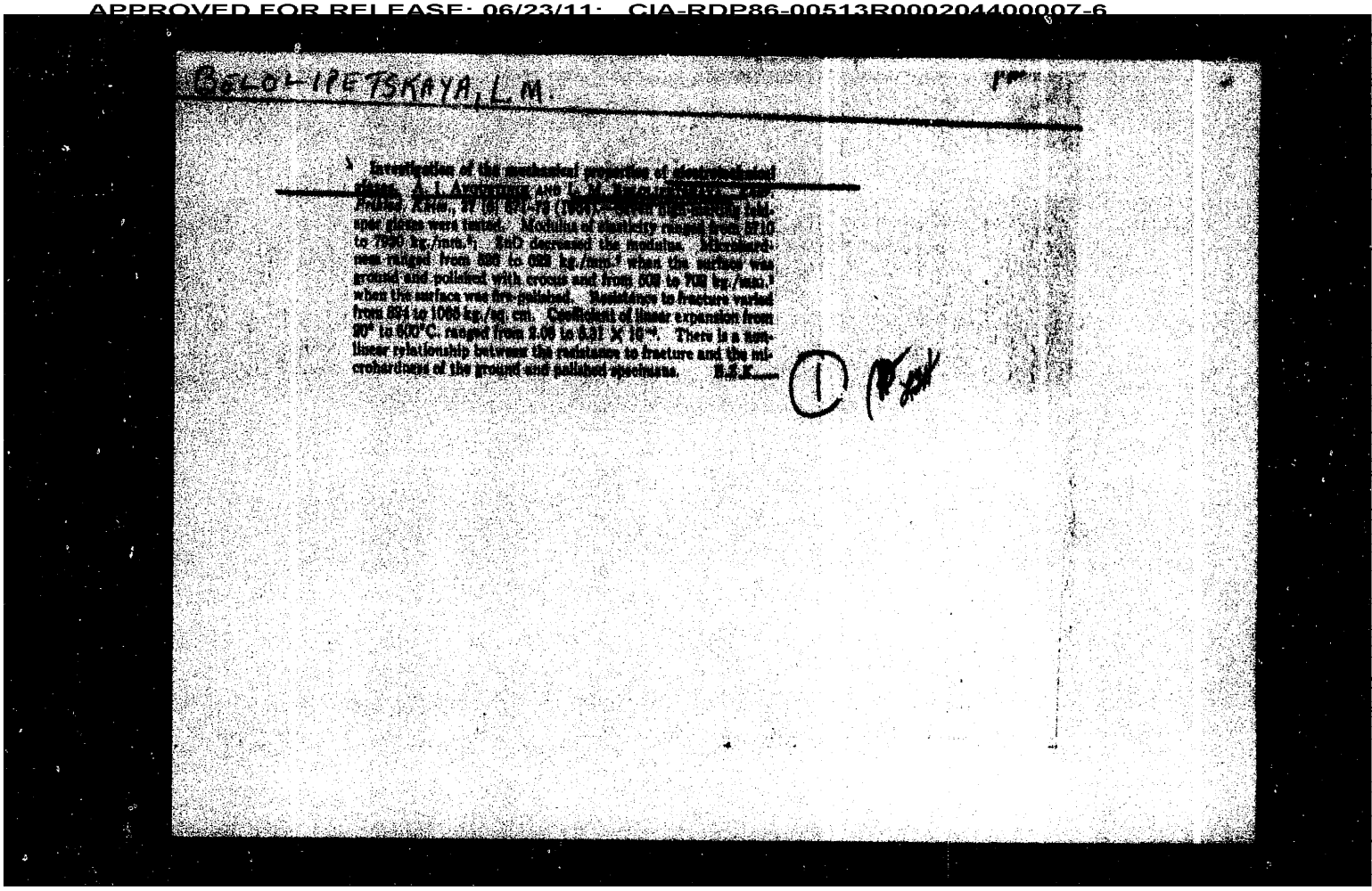
SOKOLOVSKIY, Vladimir Timofeyevich; BELOLIKOV, V.N., inzh., retsenzent; STAROVOYTOV, I.F., red.izd-va; VORONETSKAYA, L.V., tekhn. red.

[Insulating and waterproofing] Izoliatsionnye raboty. Leningrad, Gos. izd-vo lit-ry po stroit., arkhit. i stroit. materialam, 1961. 242 p. (MIRA 15:5)
(Insulation (Heat)) (Waterproofing)

BELOLIKOV, V.N., inzh.

New methods of stabilizing soil. Prom. stroi. 40 [i.e. 41] no.4: 61-63 Ap '63. (MIRA 16:3)

(Soil stabilization)



BELOUPETSKAYA, L. M.

Investigation of the mechanical properties of [illegible] glass. A. L. Arsenyeva and L. M. Beloupetskaya. Zhurnal Fiziki, 1941, 4(1-2), 71-78 (Russ.). Soda-lime, lead, and boron glasses were tested. Modulus of elasticity ranged from 5710 to 7900 kg./mm.^{2}. BaO decreased the modulus. Microhardness ranged from 500 to 600 kg./mm.^{2} when the surface was ground and polished with crocus and from 500 to 700 kg./mm.^{2} when the surface was fire-polished. Resistance to fracture varied from 85.4 to 1066 kg./sq. cm. Coefficient of linear expansion from 20° to 400°C. ranged from 3.08 to 8.31 X 10^{-6}. There is a nonlinear relationship between the resistance to fracture and the microhardness of the ground and polished specimens. B.S.K.

(1)

BELOLIPETSKAYA, T.Ya. (Anzhero-Sudzhensk)

Margarita Antonovna Kamkina. Med.sestra 18 no.9:42 S '59.
(MIRA 12:11)
(KAMKINA, MARGARITA ANTONOVNA, 1890-)

ACC NR: AP6016056 SOURCE CODE: UR/0084/65/000/011/0018/0019

AUTHOR: Belolipetskiy, A. (Engineer); Kabayev, V. (Engineer); Karyaka, V. (Engineer)

ORG: None

TITLE: Sky giant

SOURCE: Grazhdanskaya aviatsiya, no. 11, 1965, 18-19

TOPIC TAGS: transport aircraft, turboprop aircraft, aircraft engine, An-22 transport aircraft, NK-12MB aircraft engine

ABSTRACT: A general description of the new transport aircraft of the An-22 type (also known as "Antey") is presented. Being designed by O. K. Antonov's Design Office, it is considered the greatest aircraft in the world. It is equipped with four 15000-hp turboprop engines designed by N. D. Kuznetsov. Two four-blade propellers mounted on coincident axes are driven by each engine. Designed for a takeoff weight of 250 tons, the aircraft can transport a load of 80 tons over 5000 km. Its cabin being 4.4 m high, 4.4 m wide and 33 m long is well adapted for airlift of heavy machinery, vehicles, agricultural products and other goods to the remotest parts of the country. The operating range of the aircraft is 11000 km. The aircraft is provided with loading and hoist-

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ACC NR: AP6016056

ing equipment including four cranes of a total 10-ton capacity. The fuselage houses a front crew cabin, a central cargo cabin and the tail section where the cargo hatch is located. The crew cabin has an upper deck used by pilots and a lower deck for navigators. The fuselage of the cargo cabin is of a reinforced structure designed for carrying and handling heavy loads. The aircraft wing consisting of seven sections is of a trapezoidal shape. Wing panels, flaps, brakes and other parts are designed to insure safe takeoffs and landings. The takeoff run is about 1300 m. Fuel is carried in wing tanks and in containers of the central part. The landing gear carries three pair of wheels with hydraulic disk brakes and oil-nitrogen shock absorbers. The use of improved materials and new techniques in construction of the aircraft is mentioned. The aircraft is airconditioned and equipped with modern navigation and communication systems. The possibility of using the aircraft for passenger service is briefly examined. The members of the crew who piloted the aircraft to the Paris international exhibition in the summer of 1965 are shown in a photo. Two other photos show the aircraft on the airfield and the loading of tractors. Orig. art. has: 3 photos.

SUB CODE: 01/ SUBM DATE: None

L 04778-67 EWT(m)/EWP(w)/EWP(t)/ETI IJP(c) JD/DJ
ACC NR: AP6023451 SOURCE CODE: UR/0369/66/002/003/0363/0364

AUTHOR: Potamoshnev, A. P. (Kiev); Kravchenko, V. G. (Kiev); Belolipetskiy, A. Ya. (Kiev)

ORG: none

TITLE: Features of the performance of metal-powder friction materials under conditions of dry and liquid friction

SOURCE: Fiziko-khimicheskaya mekhanika materialov, v. 2, no. 3, 1966, 363-364

TOPIC TAGS: powder metal steel, alloy, metal friction, friction coefficient, friction loss / 45 steel, D16T alloy

ABSTRACT: A major problem in the development of hoisting-transporting devices is the selection of friction couples, which perform under extremely difficult and rigorous conditions. This problem is complicated by the need to reduce dimensions to a minimum. In this connection, the authors investigated the possibility of developing materials for friction couples of this kind, operating under conditions of dry and liquid friction as elements of a freight-transporting monorail-type mechanism. The tests were carried out in a special rig on using rollers of 45 mm diameter with a rotational speed of 100 r.p.m. During the tests the system was gradu-

Card 1/3

ally loaded until its rated load was reached, and the cohesive force and friction coefficients were determined for various loads in various media. Rollers made of steel 45, alloy Di6T and metal-powder friction materials were tested, and this last type of rollers was found to display the highest cohesive strength and to perform satisfactorily under load pressures $p \leq 40$ kg/cm^2. The composition of the metal-powder material was: 74% Cu, 9% Sn, 5% Pb, 4% Fe, 5% graphite, 3% sand. For this material the friction coefficient (optimal extent: 0.3-0.5) is a variable which depends on the load and lubricant, as illustrated in Fig. 1 which shows

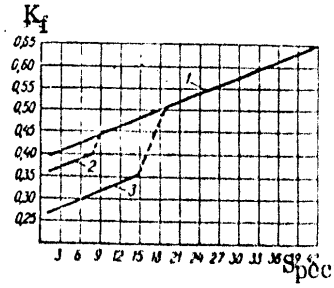

Fig. 1. Variation in the friction coefficients of powder-metal rollers on a monorail of D16T alloy as a function of specific load: 1 - dry friction; 2 - friction with introduction of water into zone of contact; 3 - friction on lubrication with spindle oil

that in the presence of both dry friction and liquid friction an increase in specific load p causes an increase in the friction coefficient. Fig. 2 shows the rollers of a hoisting-transporting device after 20 hours of test-rig operation at p = 35 kg/cm^2. It must be assumed that

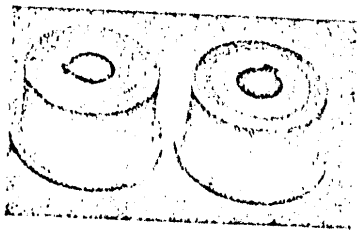

Fig. 2. Powder-metal rollers following 20 hr of operation under unit pressure p = 35 kg/cm^2

a rise in load leads to the disintegration of the lubricant film, since the friction coefficients at lubrication with water in the presence of p > 8 kg/cm^2, as well as at lubrication with spindle oil in the presence of p >15 kg/cm^2 are nearly the same as in the absence of these lubricants. These experimental findings have made it possible to design a hoisting-transporting mechanism with satisfactory operating characteristics. Orig. art. has: 2 figures, 1 formular.

SUB CODE: 11, 13, 20/ SUBM DATE: 18Jan66/ ORIG REF: 001

Card 3/3

BELOLIPETSKIY, B.I.

Water level indicator in the boiler drum. Sakh.prom. 33 no.12: 33-34 D '59. (MIRA 13:4)

1.Ertil'skiy sakharnyy zavod.
(Boilers) (Liquid level indicators)

L 47014-66 FSS-2/EWT(1)/EEC(k)-2 TT/GW

ACC NR: AR6026507 SOURCE CODE: UR/0313/66/000/004/0002/0002

AUTHOR: Belolipetskiy, V. I.

TITLE: Development of the mechanics of low thrust space flight (untile the 30' s of the 20th century)

SOURCE: Ref. zh. Issl kosm prostr, Abs. 4.62.15

REF SOURCE: Sb. 8-ya Nauchn. konferentsiya aspirantov i ml. nauchn. sotr. In-ta istorii yestestvozn. i tekhn. AN SSSR, M., 1965, 111-118

TOPIC TAGS: space flight mechanics, low thrust space flight, space flight

ABSTRACT: A presentation is made of the principles underlying electric motors proposed by early pioneers in astronautics. Specific gravity and specific power are discussed. R. Esno-Peltri is shown to be the first to have grasped the concept of specific gravity in 1913, and K. E. Tsiolkovskiy the first to have

Card 1/2 UDC: 629.19(09)

L 47014-66
ACC NR: AR6026507

grasped the concept of specific power in 1914. Aspects of low-thrust flight mechanics in the works of the scientists of the time are reviewed. A bibliography of 32 titles is included. [Translation of abstract]. [SP]

SUB CODE: 22/

Card 2/2 vmb

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204400007-6

ALISHOYER, L.R., inzh.; BELOLIPETSKIY, Yu.P., inzh.

Investigating heat resistant alloys for their applicability to working conditions of gas-turbine vanes. Energomashinostroenie 4 no.9:18-23 S '58. (MIRA 11:11)
(Heat resistant alloys)

S/058/63/000/002/023/070
A062/A101

AUTHORS: Yegorov, B. D., Rekant, N. B., Beloliptseva, I. Yu.

TITLE: Absorption of solar radiation by some commercial glasses

PERIODICAL: Referativnyy zhurnal, Fizika, no. 2, 1963, 69, abstract 2D441 ("Steklo. Byul. Gos. n.-i. in-ta stekla", 1959, no. 3 (103), 33 - 37)

TEXT: A method is proposed for calculating the integrated transmittance of glass in the region 0.3 - 2.2 μ of the spectrum by means of the curves of the energy distribution in the solar spectrum and of the spectral transmittance of glass. Results are given in the form of tables for a number of glasses and show a good agreement of the calculated and experimental data.

Yu. Kutev

[Abstracter's note: Complete translation]

Card 1/1

FILIPENKO, I.A.; BELOLOV, O.

Practices in controlling the apple moth Hyponomeuta malinellus in Tadzhikistan. Zashch. rast. ot vred. i bol. 7 no.12:33 D '62. (MIRA 16:7)

1. Starshiy agronom Yakko-Chinarskogo nablyudatel'nogo punkta (for Filipenko). 2. Agronom kolkhoza "Garm" (for Belolov).
(Tadzhikistan---Apple---Diseases and pests)
(Tadzhikistan---Ermine moths---Extermination)

BELOMAR, O.D.

Effect of the distribution of boron in rocks on the absorption of slow neutrons. Dop.AN URSR no.4:523-525 '61. (MIRA 14:6)

1. Institut mineral'nikh resursiv AN URSR. Predstaviv akademik AN URSR M.P. Semenenko.
(Neutrons) (Boron) (Radioactive prospecting)

BELOMAR, O.D.; ZAYCHENKO, V.Yu.; KIRICHENKO, N.M.; CHIYUN, A.B.

Results of sampling in neutron-neutron logging in the coal deposits of the Donets Basin. Dop. AN URSR no.5:602-606 '63. (MIRA 17:9)

1. Institut mineral'nykh resursov AN UkrSSR. Predstavleno akademikom AN UkrSSR S.I. Subbotinym.

BELOMESTNOV, A.S.

The SUZN-2 and SUZN-3 charging units. Biul.tekh.-ekon. inform.Gos.nauch.-issl.inst.nauch.i tekh.in[redacted].mc.9:14-16 '62. (MIRA 15:9)

(Blasting--Equipment and supplies)

BELOMESTNOV, K.A., mekhanik

Performance of soaking pits with radiation and convection recuperators. Metallurg 7 no.1:31-33 Ja '62. (MIRA 15:1)

1. Listoprokatnyy tsekh No.1 Severskogo metallurgicheskogo zavoda.
(Furnaces, Heating)

BELOMESTNOV, K.A., mekhanik; INOSHEVSKIY, A.V., master goryachego peredela

Work has become easier. Metallurg 8 no.2:34 F '63. (MIRA 16:2)

1. Listoprokatnyy tsekh No.1 Severskogo metallurgicheskogo zavoda.

(Rolling mills--Technological innovations)

BELOMESTNOV, Ye., podpolkovnik

A leader of young artillerists. Komm.Vooruzh.sil 2 no.7:52-57 Ap '62. (MIRA 15:3)
(Russia--Army--Artillery)(Russia--Army--Political activity)

BELOMESTNOV, Ye., podpolkovnik

A Communist cannot be indifferent. Komm. Vooruzh. Sil 46 no.12:63-65 Je '65. (MIRA 18:10)

S/020/60/132/02/27/067
B011/B002

5.3200

AUTHORS: Bogdanova, O. K., Balandin, A. A., Academician, Belomestnykh, I. P.

TITLE: Catalytic Dehydrogenation of Isopropyl Benzene

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 2, pp. 343-345

TEXT: The authors investigated the reaction kinetics and the influence of the structure of the carbon molecule on the reaction rate of the catalytic dehydrogenation of isopropyl benzene. The experiments were conducted according to the continuous method on a mixed-oxide catalyst (Ref. 3). The substance used for dilution was water vapor (weight proportion of 1:2). Before the reaction, the water vapor was overheated to 300°. The contents of CO_2, unsaturated and saturated hydrocarbon and hydrogen were determined in the gas obtained after the reaction. The catalysate was colorless. A far-reaching agreement was observed between the amount of liberated hydrogen and the developing α-methylstyrene (Table 1). For 30 min a mixture of air and water vapor was blown through the catalyst after each experiment, and thus the activity of the catalyst was maintained. The kinetics of the above reaction was investigated at 500°-550° with a passage of 0.42 ml within 3 min. The latter corresponded to a volume

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velocity of 800 ml per 1 l of the catalyst per 1 h. The reaction rate was determined from the amount of the liberated hydrogen. The contact gas mainly consists of hydrogen with 0.5% to 2.0% of CO_2, and contains up to 0.4% of unsaturated, but no saturated hydrocarbons (Table 1). The constants of the reaction rate were calculated from the obtained data according to Ref. 7 on the basis of equation (1) in such a way that they can be used under the conditions of a continuous system. The authors also investigated the rate of dehydrogenation of binary mixtures of isopropyl benzene with α-methyl styrene and hydrogen. From the results they determined the relative adsorption coefficients (z_2 and z_3) of the reaction products. For this purpose they used the formula given by Ref. 8. Table 2 shows the values of these coefficients. Hence z_2 of α-methyl styrene is reduced from 3.8 at 520° to 0.95 at 550°. As regards hydrogen however, the value of z_3 does not change with the temperature and is 0.7. Fig. 1 shows the logarithmic dependence of the reaction rate constants on the absolute reciprocal temperature. The points form a straight line. The Arrhenius equation is observed. The activation energy is 30.3 kcal/mole and the pre-exponential factor $\lg k_0 = 6.25$. The authors found out that the grain size of the catalyst (1.5, 3, and 5 mm) is of no effect on the process. The dependence of the yield of α-methyl styrene on the temperature of the catalyst with various grain sizes

is illustrated by Fig. 2. The points of these two dependences are lying on the same curve. Hence the authors concluded that their experiments took place within the kinetic range. From z_2 and z_3 the changes of the liberated energy ΔF, the heat content ΔH and the entropy ΔS were calculated in the adsorption displacement from the active centers of dehydrogenation. The degree of the dehydrogenation of isopropyl benzene increases with rising temperature. At 580° and 607°, the yield in α-methyl styrene attains 70.5% and 83%, respectively (Table 1). G. M. Marukyan is mentioned. There are 2 figures, 2 tables, and 8 references, 4 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences, USSR)

SUBMITTED: February 8, 1960

S/020/60/133/004/036/040XX
B016/B054

AUTHORS: Bogdanova, O. K., Balandin, A. A., Academician, and Belomestnykh, I. P.

TITLE: The Effect of the Conjugation Energy on the Rate of Catalytic Dehydrogenation of Alkyl-aromatic and Alkyl-hexahydro-aromatic Hydrocarbons

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 133, No. 4, pp. 841-842

TEXT: The authors report on their investigations of the dehydrogenation of ethyl cyclohexane and isopropyl cyclohexane on mixed oxide catalyst. They proceeded from the results of a previous paper (Ref. 1) which showed that ethyl benzene and isopropyl benzene are well dehydrogenated on this catalyst. The rate constant of the dehydrogenation of isopropyl benzene with a ramified alkyl radical is twice that of ethyl benzene (Table 1). Apparatus and methods used for the experiment are described in the paper mentioned (Ref. 1). The amount of catalyst used was 10 ml, the temperature

The Effect of the Conjugation Energy on the Rate of Catalytic Dehydrogenation of Alkyl-aromatic and Alkyl-hexahydro-aromatic Hydrocarbons

S/020/60/133/004/036/040XX
B016/B054

was 550 - 600°C, the volume velocity of the hydrocarbon was 1000 ml/l · h (equal to a rate of travel of 0.5 ml per 3 min). Afer every experiment, the catalyst was blown through with vapor - air mixture and with air. Cyclohexane was also used for the experiments; it can, however, not be dehydrogenated under the above conditions. The dehydrogenation of ethyl cyclohexane at 550° was poor (1% of vinyl cyclohexane was formed); the same applies to isopropyl cyclohexane (2% of isopropylidene cyclohexane). At 600°C, these yields were 3.8, and 6.7% respectively. At 600°C, methane, ethane, and unsaturated hydrocarbons were formed by cracking. The authors conclude from their results that the rate of catalytic dehydrogenation depends on the structure of the hydrocarbons used, on that of their alkyl radicals, and mainly on the possibility of formation of a conjugate bond with the aromatic ring. The dehydrogenation of the alkyl group of the hexahydro-aromatic ring is rendered difficult. There are 1 table and 7 references: 5 Soviet, 1 British, and 1 German.

Card 2/3

BOGDANOVA, O.K.; SHCHEGLOVA, A.P.; BALANDIN, A.A.; BELOMESTNYKH, I.P.

Catalytic dehydrogenation of ethyl benzene into styrene.
Neftekhimiia 1 no.2:195-200 Mr-Ap '61. (MIRA 15:2)

1. Institut organicheskoy khimii AN SSSR im. N.D. Zelinskogo.
(Benzene) (Styrene)
(Dehydrogenation)

BALANDIN, A.A., akademik; BOGDANOVA, O.K.; BELOMESTNYKH, I.P.

Kinetics of the dehydrogenation of ethyl benzene to styrene. Dokl. AN SSSR 138 no.3:595-597 My '61. (MIRA 14:5)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Dehydrogenation) (Benzene) (Styrene)

53300

25313

S/020/61/138/005/013/025
B103/B215

AUTHORS: Bogdanova, C. K , Balandin, A. A , Academician, and Belomestnykh, I. P.

TITLE: Effect of the structure of alkyl-aromatic hydrocarbons on the kinetics of their dehydrogenation

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 138, no. 5, 1961, 1089-1092

TEXT: The authors explain the effect of the introduction of a second radical into the benzene ring of ethyl toluene on the dehydrogenation rate of the ethyl radical. They had already proved (Ref 1: DAN, 132, No. 2, 343 (1960); Ref. 2: DAN, 138, No. 3 (1961)) that isopropyl benzene (ramified radical) is dehydrogenated faster than ethyl benzene (straight chain). The experiments were conducted in the apparatus of Ref 1 by the same methods. The reaction rate was bromometrically determined by the method of G. D. Gal'pern (Ref. 3: Tr. Inst. nefti, 4, 141 (1954)) according to the amount of vinyl toluene produced. The catalyzate was also chromatographically analyzed. A mixture of dinonyl-lidecyl sebacates (Neozone D content 2 %) 18 % of which was applied to diatomite bricks

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Effect of the structure of... 25313

served as liquid phase. The temperature was 524-560°C, the flow rate 1000 ml/l·hr (0.5 ml per 3 min) diluted with H_2O vapor, in the ratio of 1:16 or 1:32. The experiment proceeded far from equilibrium. The amount of by-products (xylene, toluene) in the catalysate was low. The contact gas contained only 0.2-0.4% of olefins and 0.5-0.9 % of saturated hydrocarbons. The relative adsorption coefficients were determined by measuring the rate of dehydrogenation of ethyl toluene - vinyl toluene (31 moles of vinyl toluene) mixtures. The coefficients z_2 of vinyl toluene drop from 3.8 at 530°C to 1.5 at 560°C. The function $\log z_2 = F(1/T)$ is linear. The coefficient $z_3 = 0.7$ for hydrogen does not change with temperature. The above kinetic results may be expressed by the general kinetic equation for monomolecular reactions in the continuous system (A. A. Balandin, Ref. 7: ZhOKh, 12, 160 (1942)). The dependence of the logarithm of the velocity constant on the reciprocal absolute temperature is also linear. The Arrhenius equation is observed. The energy of activation calculated from these constants is 34.6 kcal/mole and $\log k_0 = 7.3$. On the basis of the adsorption coefficients determined for vinyl toluene on the active surface

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of the catalyst, the authors calculated the changes in free energy, of enthalpy and entropy during the adsorptive displacement from the catalytic surface. The velocity constant of ethyl toluene dehydrogenation (0.731-1.704) at 530-560°C is higher than that of ethyl benzene (0.376-1.055). Hence, the authors conclude that the dehydrogenation of the ethyl radical is accelerated by introducing a methyl radical into the benzene ring. Since vinyl toluene is an important raw material for the production of synthetic rubber (copolymer production), perfumes, etc., the authors studied its dehydrogenation on a mixed oxide catalyst at 580°C and flow rates of 1000, 820, and 570 ml/l·hr. The experiments showed that the vinyl toluene yield (with respect to the flow of ethyl toluene) increased from 42.8 to 56.8 % as the velocity of flow decreases. Since the yields calculated with respect to decomposed ethyl toluene drop from 86.1 to 80.7 %, the authors assume the formation of by-products. Chromatographical studies showed that the amount of toluene increased from 0.6 to 1.4 % (at 570 ml/l·hr) and that of xylene from 4.3 to 10.8 %. 0.1 % of benzene was also formed. The authors therefore conclude that high yields of vinyl toluene are obtainable at 580°C and a high flow rate of ethyl toluene on the oxide catalyst. A V Bondarenko is mentioned.

Effect of the structure of... 25313 S/020/61/138/005/013/025
B104/B215

There are 3 figures, 4 tables, and 3 references: 1 Soviet-bloc and 3 non-Soviet-bloc. The two references to English-language publications read as follows: T. W. Evans (Ref. 2: J. Chem. Education, 32, 6 (1955); F. G. Baege, (Ref. 9: Ind. and Eng. Chem., 46, 1625 (1954).

SUBMITTED: February 28, 1961

Card 4/4

S/204/62/002/004/005/019
E071/E433

AUTHORS: Belomestnykh, I.P., Bogdanova, O.K., Balandin, A.A.

TITLE: The influence of the structure of hydrocarbons on the kinetics of their dehydrogenation

PERIODICAL: Neftekhimiya, v.2, no.4, 1962, 467-472

TEXT: The influence of the structure of hydrocarbon molecules on the kinetics of their dehydrogenation was studied on isopropyl-benzene, ethyl, ethyl-, 1-methyl-3-ethyl-, 1,4-dimethyl-2-ethyl, n.propyl- and diethylbenzenes, using the same oxide catalyst. The experiments were carried out in a straight through apparatus, with dilution of hydrocarbons with steam in a proportion of 1:2 to 3 (by wt), in the temperature range 500 to 560°C with a volume velocity of 0.8 to 1.0 hour^{-1} (for diethylbenzene temperature range 520 to 620°C at feeding rates of 1500, 700, 500 and 300 ml per litre of catalyst per hour). The velocity of dehydrogenation was determined on the basis of the evolution of hydrogen and alkenylbenzene formed. The compositions of catalysates were analysed by the chromatographic method. It was shown that alkylaromatic hydrocarbons with a branched radical and with substituents in the ring are dehydrogenated with a high

Card 1/2

velocity. From the experimental data the velocity constants of the dehydrogenation reaction were calculated for the individual hydrocarbons and the existence of the logarithmic dependence between the reaction constant and activation energy was confirmed. Changes in free energy, heat content and entropy of the adsorption displacement from active centres of the catalyst were calculated. It was shown that with the catalyst used the dehydrogenation products can be obtained with high yields at 565 to 620°C and high feeding rates: e.g. vinyltoluol can be obtained with a yield per pass of 43 to 57% (feeding rate 0.5 to 1.0 hour^{-1}), divinylbenzene with a yield per pass of 30 to 36% + 22 to 20% of ethylvinylbenzene (feeding rate 0.5 to 0.7 hour^{-1}). There are 7 figures and 3 tables.

ASSOCIATION: Institut organicheskoy khimii AN SSSR
im. N.D.Zelinskogo (Institute of Organic Chemistry
AS USSR imeni N.D.Zelinskiy)

BOGDANOVA, O.K.; BALANDIN, A.A., akademik; BELOMESTNYKH, I.P.

Dehydrogenation kinetics of alkylaromatic hydrocarbons as dependent on their structure. Dokl. AN SSSR 146 no.6:1327-1330 O '62. (MIRA 15:10)

(Hydrocarbons) (Dehydrogenation)

L 17058-63 EPF(c)/EWT(m)/BDS Pr-4 S/062/63/000/004/002/022
RM/WW

AUTHOR: Bogdanova, O. K., Balandin, A.A., and Balomestnykh, I. P.

TITLE: Regularities in the catalytic dehydrogenation of lkylaromatic hydrocarbons

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 4, 1963, 611-616

TEXT: The regularities found in studying the effect of the molecular structure of alkylbenzene on the kinetics of their dehydrogenation were examined. It was found the molecular structure of hydrocarbons regularly affects the rate constant, activation energy and reaction constant of dehydrogenation and the thermodynamic function of adsorption displacement on an oxide catalyst. The existence of a logarithmic relationship between the activation energy and the reaction constant was confirmed. A parallelism exists between the change of heat content and entropy during the adsorption displacement by the dehydrogenation products from the active centers of the catalyst. There are 5 figures and 2 tables.

ASSOCIATION: Institut organicheskoy khimii im. N.D. Zelenskogo Akadem... nauk SSSR (Institute of Organic Chemistry imeni N.D. Zelinskiy, Academy of Sciences USSR)

SUBMITTED: June 8, 1962

Card 1/1

BOGDANOVA, O.K.; BALANDIN, A.A.; BELOMESTNYKH, I.P.

Effect of the structure of alkyl aromatic hydrocarbons on the kinetics of their dehydrogenation, and the dehydrogenation of diethylbenzene. Izv. AN SSSR. Ser. khim. no.12:2100-2105 D '63. (MIRA 17:1)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.

BELOMESTNYKH, V.A.; SHAFER, Yu.G.

Methods for recording and study of cosmic ray intensity variations in the stratosphere. Trudy IFAN SSSR Ser. fiz. no.2:47-56 '58.
(Cosmic rays) (Radiosondes)
(MIRA 11:7)

BELOMESTNYKH, V.A.; NEDZVEDSKIY, B.S.; SHAFER, Yu.G.

Investigation of cosmic ray intensity variations in the stratosphere. Trudy IAFAN SSSR. Ser. fiz. no.3:15-21 '60. (MIRA 13:11)
(Cosmic rays)

3.2410

29663
S/169/61/000/005/021/049
A005/A130

AUTHORS: Belomestnykh, V.A., Nedzvedskiy, B.S. and Shafer, Yu.G.

TITLE: Study of intensity variations of cosmic rays in the stratosphere

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 5, 1961, 11, abstract 5 G 91. (Tr. Yakutskogo fil. AN SSSR. Ser. fiz., 1960, no. 3, 15-21)

TEXT: The authors describe in detail the equipment used at Yakutsk for the investigation of cosmic rays in the stratosphere. The radiation was recorded by a counter telescope with double coincidences and single counter. The total weight of equipment was 2,150 g. The statistical recording accuracy in the Pfotzer maximum ($\sim$100 g/cm^2) amounts to 1.5-3.0%. Some results of analyzing the data for 1957-1959 are given. In particular, the authors reveal that during this period the intensity of cosmic rays at the 50 mb level ($\sim$ 20 km) increased by (16±8)% owing to the appearance of additional radiation flux with energies up to (10±2)Bev.

[Abstractor's note: Complete translation.]

Card 1/1

S/656/61/000/000/003/007
D244/D304

AUTHORS: Gulia, V.G., Nemkova, O.G., Byelomestnykh, V.I., and Dukhovich, F.S.

TITLE: Investigating the composition of precipitated uranovanadates

SOURCE: Spitsyn, V.I., ed. Issledovaniya v oblasti khimii urana; sbornik statey (Moscow) 1961, 262 - 270

TEXT: The authors investigated the process of interaction between solutions of uranyl nitrate and ammonium, sodium and potassium metavanadates with the aid of potentiometric conductometric and chemical analysis. The introduction of the first 0.4 - 0.5 g atom of vanadium to 1 g atom of uranium caused the formation of a yellow precipitate, the amount of which increased with further addition of the vanadate. When the solutions were mixed in the reverse order, the first drop of uranyl nitrate caused the precipitation. It was shown that the inflections in the potentiometric and conductometric titration curves correspond to the precipitation of vanadates. The ratio of U to V in the precipitates is 1 : 3 and 1 : 4 for a) addi-

Card 1/4

Investigating the composition of ...

tion of uranyl nitrate to vanadate and of vanadate to uranyl nitrate. The separation of the two types of the precipitates was found to be difficult in view of their colloidal nature. Moreover, it was observed that the mother-liquor in contact with the precipitates increased its pH from 4.7 to ca. 5.3, in 20 days. The increase was due to changes in the composition of the precipitated uranovanadates. This effect was studied for the precipitate obtained from NH_4VO_3 and $UO_2(NO_3)_2$. The precipitates were separated in a centrifuge (6000 rpm.) and analyzed after different times of standing in contact with the mother liquor. Uranium was separated from vanadium on a cation exchange resin KV-2. Uranium was then determined by a vanadometric method with the use of NH_4VO_3 and phenyl anthranilic acid as the indicator. Vanadium was determined by permanganate titration after previous reduction with gaseous H_2S. The results show that the composition of the precipitates separated from the solutions after they have reached a constant pH, does not depend on the order in which the reagents are mixed. The ratio of U to V in such precipitates is 1 : 2 and its formula $(NH_4)_2O \cdot 3UO_3 \cdot V_2O_5 \cdot 5H_2O$. If Na or K vanadate is used, the composition is $Me_2O \cdot 2UO_3 \cdot 3V_2O_5 \cdot 6H_2O$

Cards 2/4

where Me = Na or K. The authors demonstrated that the composition of freshly precipitated uranovanadates depends on the initial concentration of vanadium in solutions. This was carried out by titrating 10 ml of uranyl nitrate solutions (pH = 3.00) with ammonium metavanadate solutions (pH = 7.00) of different concentration. The ratio of U to V in the fresh precipitates falls with the decreasing concentration of the metavanadate in solution. However, for the equilibrated precipitates, (i.e. those left in contact with their mother-liquors) there is no dependence on the concentration and the ratio is always about 1 : 2. The authors investigated also the effect of changing pH of the orignanl solutions from 1.00 to 10.00. The results show that NH_3 is present in the uranovanadates separated from the solutions having pH values of 5.00, 7.18 and 10.00. The composition of uranovanadates changes from polyvanadates to orthovanadates as the medium changes from acid to alkaline. It is also possible that a mixture of uranovanadates and ammonium uranates is precipitated from alkaline solution There are 6 figures, 6 tables and 15 references: 7 Soviet-bloc and 8 non-Soviet-bloc. The references to the English-language publications read as follows:

Investigating the composition of ...

S/656/61/000/000/003/007
D244/D304

H. Britton and G. Welford, J. Chem. Soc., [illegible] 6, 764, 1940, F. Hess Eng. Min. Journal, 114, 272, 1922.

Card 4/4

ACCESSION NR: AP4042346 S/0129/64/000/007/0027/0030

AUTHOR: Belomy*ttsev, Yu. S., Lyashenko, V. S. (Deceased); Abramovich, M. D.

TITLE: Effect of alloying elements on high temperature strength of low carbon Cr-Si steel

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 7, 1964, 27-30

TOPIC TAGS: steel OKh12S2, steel OKh12S2M2, steel OKh12S2M2F, steel OKh12S2M2FB, low carbon steel, chromium silicon steel, heat resistant steel, alloying element effect, steel OKh12S2M2FBV, high temperature strength

ABSTRACT: Laboratory smelted samples (1 kg) of basic steel OKh12S2 (12-13% Cr, 1.4-1.6% Si, 0.02-0.04% C) and its modifications OKh12S2m2 (containing 1.5-1.8% MO), OKh12S2M2F (containing 0.05-0.1% V) and OKh12S2M2FB (containing 0.3-0.4% Nb) were air quenched from 950C and tempered for 3 hrs. at 700C. Heat resistance was determined from residual deformation after 200-300 hrs. at 600C and loads of 4, 8 or 10 kg/mm^2. It was found that simultaneous alloying of OKh12S2 with Mo, V, Nb and W results in substantially better heat resistance than that obtained by addition of individual alloying elements. For the studied range, addition of 1.5% Mo to OKh12S2 steel was optimal, maximal heat resistance resulted in OKh12S2M2 steel when 0.05 to 0.1% V was added, optimal addition of Nb to OKH12S2M2F steel was 0.4% and the alloy OKh12S2M2FBV (also containing ~ 1% W)

1/2

Card

ACCESSION NR: AP4042346

exhibited excellent high temperature strength at 600C. This is attributed to solid phase hardening by the W and the formation of a finely dispersed and thermostable phase (W, Mo) Fe_2. Orig. art. has: 3 graphs and 2 tables.

ASSOCIATION: None

SUBMITTED: 00

SUB CODE: MM

NO REF SOV: 000

ENCL: 00

OTHER: 002

2/2

Card

L 34364-66 EWT(m)/EWP(t)/ETI WW/JD/JG

ACC NR: AP6021360 SOURCE CODE: UR/0207/66/000/003/0124/0126

AUTHOR: Belomyttsev, V. P. (Voronezh)

ORG: none

TITLE: The dispersion of a group of plates in the atmosphere

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 3, 1966, 124-126

TOPIC TAGS: aerodynamics, free fall model

ABSTRACT: The problem of dispersion of a group of rigid, homogeneous, rectangular plates with a large aspect ratio falling from high altitudes is considered, in order to determine the configuration of the group of falling plates, its position in space, and the distribution of the plates with respect to time, assuming a nonturbulent atmosphere. It is also assumed that the center of gravity of the plates remains in the same plane, that the long axis is horizontal, and that the resistance force of the medium is proportional to the square root of the velocity. The analysis is based on a law for the motion of a single self-rotating plate falling freely in the atmosphere. This law is derived to a certain approximation on the basis of the equation of steady motion obtained by N. E. Zhukovskiy (Sobraniye sochinenniy.

Card 1/2

L 34364-66

ACC NR: AP6021360

Gostekhizdat, 1948, v. 4, p. 41-68) and experimental data on dropping plates from certain altitudes. The problem is reduced to determination of the motion of a free-falling plate before it starts to rotate, with the variation of atmospheric density taken into account. Expressions are derived for the maximum velocity attained, the location of this maximum corresponding to the beginning of self-rotation, and the parameter σ characteristic for surface distribution of plates in space. Orig. art. has: 1 figure and 11 formulas. [AB]

SUB CODE: 20/ SUBM DATE: 14Dec65/ ORIG REF: 002/ ATD PRESS: 5033

Card 2/2

GELLER, L.I.; SAKAYEVA, S.Z.; MUSINA, S.S.; KOGAN, Ya.D.; BELOMYTTSEVA, L.A.; OSTROVSKAYA, R.S.; VOLOKHOV, Ya.P.; LUK'YANOVA, Ye.S.; POPOVA, R.M.; MOSKATEL'NIKOVA, Ye.V.

Effect of noise on arterial pressure; etiology of hypertension. Ter. arkh. 35 no.7:83-86 Jl '63 (MIRA 17:1)

1. Iz kliniki (zav. - starshiy nauchnyy sotrudnik L.I.Geller) Ufimskogo nauchno-issledovatel'skogo instituta gigiyeny i professional'nykh zabolevaniy (dir. - kand. med. nauk G.M. Mukhametova).

GELLER, L.I.; SAKAYEVA, S.Z.; MUSINA, S.S.; BELOMYTTSEVA, L.A.; OSTROVSKAYA, R.S.; KOGAN, Ya.D.

Significance of heredity in the development of hypertension. Sov. med. 27 no.2:35-36 F '64. (MIRA 17:10)

1. Klinika (zav. L.I. Geller) Ufimskogo nauchno-issledovatel'skogo instituta gigiyeny i professional'nykh zabolevaniy (dir. - kand. med. nauk G.M. Mukhametova).

ACC NR: AP7002546 (A,N) SOURCE CODE: UR/0413/66/000/[illegible]/0027

INVENTORS: Rasskazovskiy, A. S.; Belonenko, M. P.; Kolesnichenko, V. I.

ORG: none

TITLE: Quenching aqueous solution. Class 18, No. 189004

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 23, [illegible], 27

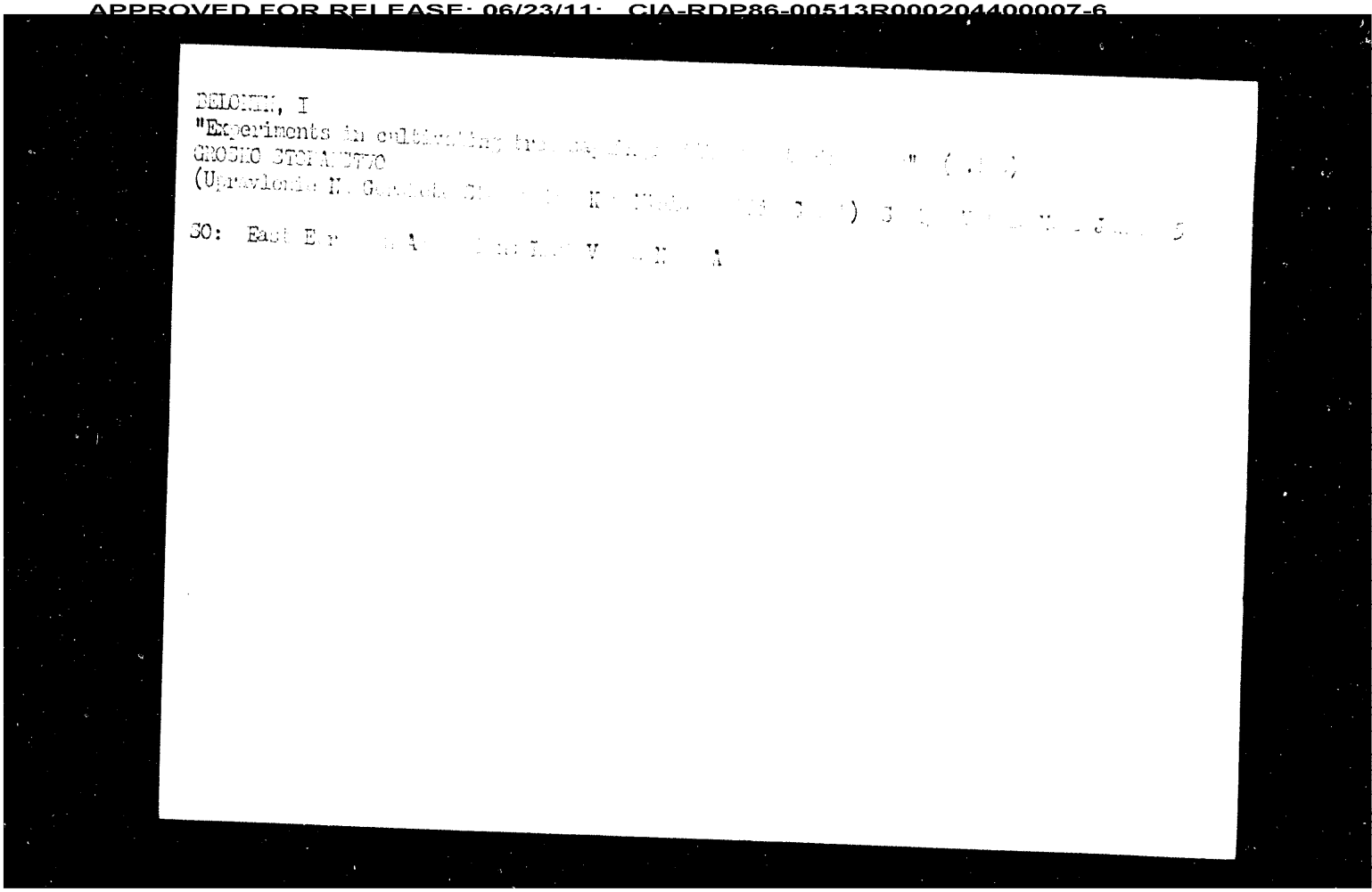
TOPIC TAGS: tempering, aqueous solution, cooling, glycerin, sodium chloride

ABSTRACT: This Author Certificate presents a quenching aqueous solution for sprayer cooling with induction heating under tempering, which contains glycerin and sodium chloride. To decrease crack formation during tempering and to produce high product hardness, the solution has the following composition (in volume %): glycerin - 30--40, sodium chloride - 15--20, and water - 40--55.

SUB CODE: 11/ SUBM DATE: 16Sep64

Card 1/1

UDC: 621.784.6.06



DELOKHIN, I
"Experiments in cultivating [illegible]"
GROSNO STCHASTYE
(Upravlenie M. Gazeta [illegible])

SO: East E[illegible]

BELONIN, M.D.

Concerning M.A. Zhdanov's article "Basic trends in the development of scientific methods for estimating possible oil and gas reserves." Sov. geol. 6 no.11:166-168 N '63. (MIRA 17:1)

BELONIN, M.D.

Basic characteristics of the evolution of Sokolovogorsk and Bagayevka structures in the Volga Valley portion of Saratov Province. Sov. geol. 7 no.12:90-109 D '64. (MIRA 18:4)

1. Leningradskoye otdeleniye Matematicheskogo instituta im. V.A. Steklova AN SSSR.

BELONIN, M.D.

Characteristics of the accumulation of sulfur, nitrogen, vanadium and nickel in the petroleums of eastern [illegible]. Trudy VNIGRI no.227 Geokhim.sbor. no.9:87-94 '65.

(MIRA 18:1)

KNORING, L.D.; BELONIN, M.D.

Comparison criteria for rose curves. Trudy VNIGRI no.228:249-260 '64 (MIRA 17:8)

BELONIN, M.D.

Nature of the transformation processes in petroleum of eastern Ciscaucasia. Dokl. AN SSSR 154 no.1:121-124 Ja'64.

(MIRA 17:2)

1. Vsesoyuznyy neftyanoy nauchno-issledovatel'skiy geologorazvedochnyy institut. Predstavleno akademikom A.A. Trofimukom.

DVALI, M.F.; BELONIN, M.D.

Prospects for finding deep and extradeep oil and gas fields in the U.S.S.R. Sov. geol. 8 no.3:10-22 '65.

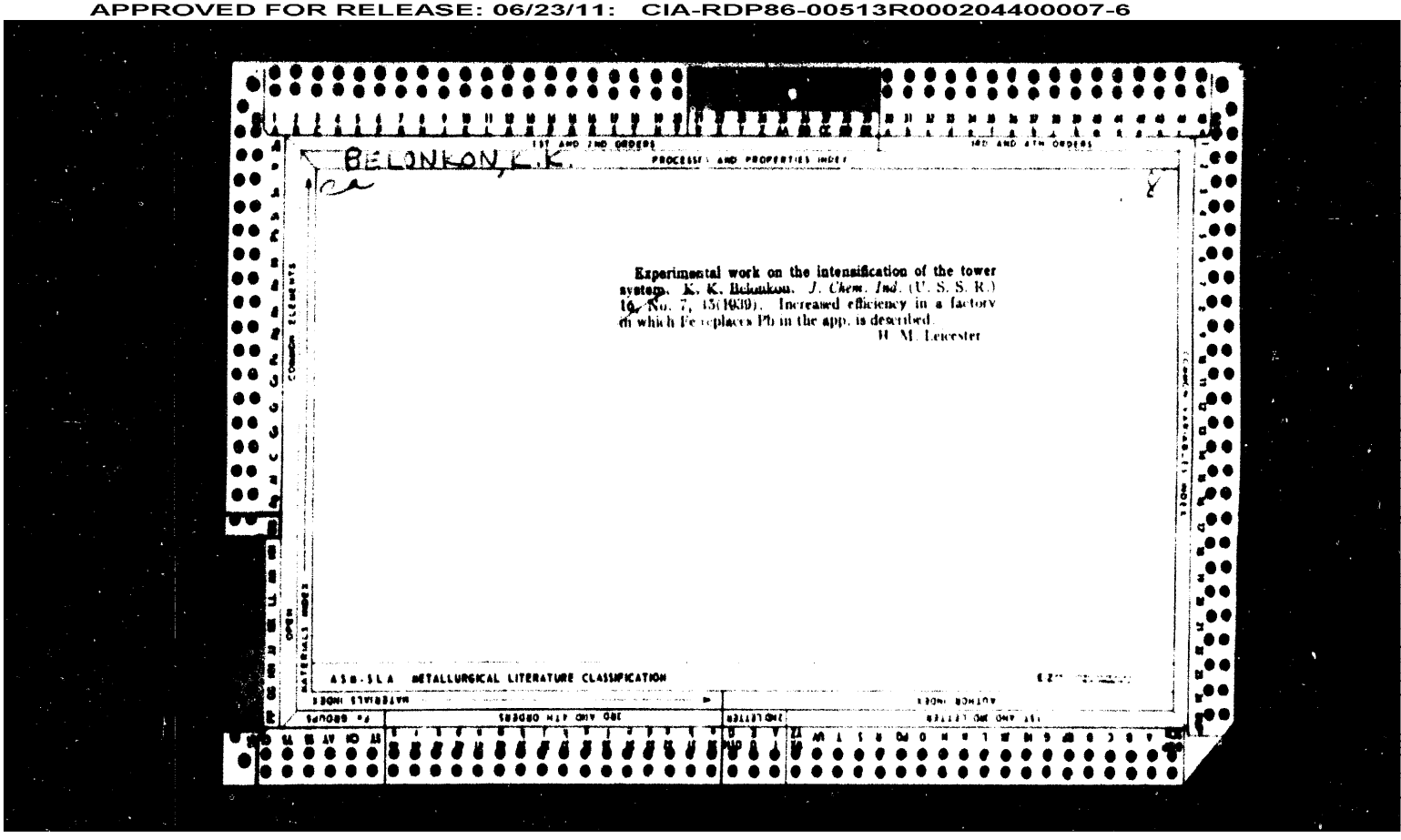
(MIRA 18:5)

1. Vsesoyuznyy neftyanoy nauchno-issledovatel'skiy geologorazvedochnyy institut.

Belonin, Y. M.

Belonin, Y. M. "M. I. Lan'kolepov as a cartographer," Ukr. geogr. zapiski (Kievsk. gos. un-t im. T. Shevchenko), vol. 1, [illegible], [illegible], pp. 99-[illegible], (Survey of periodical in Ukrainian)

SO: U-4934, 29 Oct 53, (Letopis 'Zhurnal'nykh Statey, no. 31, 1949



BELONKON, L.K.

Experimental work on the intensification of the tower system. K. K. Belonkon. *J. Chem. Ind.* (U. S. S. R.) 16, No. 7, 15(1939). Increased efficiency in a factory in which Fe replaces Pb in the app. is described.

H. M. Leicester

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204400007-6

BELONOG, R.P.; LARINA, M.B.

Treatment of suppurative meningitis with tetran-khinoin. Vrach. delo no.2:147-148 F '63. (MIRA 16:5)

1. Otdeleniye vozrastnykh izmeneniy nervnoy sistemy Instituta gerontologii i eksperimental'noy patologii AMN SSSR i klinika nervnykh bolezney Bol'nitsy imeni Oktyabr'skoy revolyutsii (zav. - deystvitel'nyy chlen AMN SSSR, prof. B.N. Man'kovskiy [deceased]).

(TERRAMYCIN) (MENINGITIS)

ARESHNIKOVA, L.A.; BELOKON', K.P.

Bioelectrical activity of the brain in regions [illegible] hypo- and hypertension; clinical encephalographic characteristics. Zhur. nevr. i psikh. 65 no.4:[illegible]-53, '65.

(MIRA 18:5)

1. Kafedra nervnykh bolezney (zaveduyushchiy - prof. [illegible] Man'kovskiy) Kiyevskogo ordena Trudovogo Krasnogo Znameni meditsinskogo instituta im. Bogomol'tsa i [illegible] rastnykh izmeneniy nervnoy sistemy [illegible] i eksperimental'noy patologii (direktor - [illegible] Khobotarev) AMN SSSR.

BELONOG, R.P.

Electroencephalogram under normal conditions and in cerebral atherosclerosis in elderly and senile persons. Vop. geron. i geriat. 4:196-202 '65. (MIRA 18:5)

1. Institut gerontologii AMN SSSR, Kiyev.

BIRYUKOV, S.; KUR'YAKOV, V.; SUSLOVA, Z.; ALEKSEYEV, A.; PANTELEYEV, A.; KARAVAYEV, P.; BELONOGOV, A.

Improve State Bank credit-payment relations with collective farms. Den.i kred. 18 no.2:55-60 F '60. (MIRA 13:1)

1. Starshiy kreditnyy inspektor Shurminskogo otdeleniya Gosbanka Kirovskoy oblasti(for Biryukov). 2. Nachal'nik otdela kreditovaniya kolkhozov Chitinskoy kontory Gosbanka (for Kur'yakov). 3. Kreditnyy inspektor Kotel'nicheskogo otdeleniya Gosbanka Korovskoy oblasti (forSuslova). 4. Upravlyayushchiy Selivanovskim otdeleniyem Gosbanka Vladimirskoy oblasti (for Alekseyev). 5. Starshiy revizor Zapadno-Kazakhstanskoy kontory Gosbanka (for Panteleyev). 6. Glavnyy bukhgalter Komi-Permyatskoy okruzhnoy kontory Gosbanka (for Karavayev). 7. Upravlyayushchiy Perechinskim otdeleniyem Gosbanka Zakarpatskoy oblasti (for Belonogov).

(Agricultural credit)

S/058/62/000/008/120/134
A160/A101

AUTHORS: Belonogov, A. M., Yevgrafov, A. A.

TITLE: The emission of electrons from the surface of radio ceramics irradiated by gamma rays

PERIODICAL: Referativnyy zhurnal, Fizika, no. 8, 1962, 48, abstract 8Zh316 ("Izv. Leningr. elektrotekhn. in-ta", no. 46, 1961, 344 - 345)

TEXT: Presented are the results of an investigation on low-temperature electron emission from the surface of dielectrics subjected to ionizing radiation. To record the emission, a specially-developed installation with an open-type point counter working under atmospheric pressure was used. The intensity of the emission counting at 360°C was ~1,000 pulses/sec (the natural background is 1 - 2 pulses/sec). When irradiating titaniferous ceramic materials by γ-rays, an emission maximum was observed, corresponding to an emission peak at 360°C (observed formerly by Bogun and others) from the surface of a partially recovered rutile (an emission peak was also observed in the case of Ti-ceramics subjected to aging in the electric field). It is shown that the ceramics with a

Card 1/2

The emission of electrons from...

strongly expressed trend to age in the electric field had its emission peak at 140°C. More resistant ceramics have no such a peak. An emission was observed in all cases at temperatures of ~450°C. It is pointed out that the mechanism of the low-temperature electron emission from defects in the dielectrics, caused by irradiation, has not been studied yet. Recent data, however, speak in favor of the recombination nature of the phenomenon.

A. B.

[Abstracter's note: Complete translation]

41795

S/194/62/000/008/080/100
D271/D308

AUTHORS: Belonogov, A.M., and Yevgrafov, A.A.

TITLE: Surface electron emission of radio ceramics irradiated by gamma rays

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 8, 1962, 48, abstract 8Zh316 (Izv. Leningr. elektrotekhn. in-ta, 1961, no. 46, 344-345)

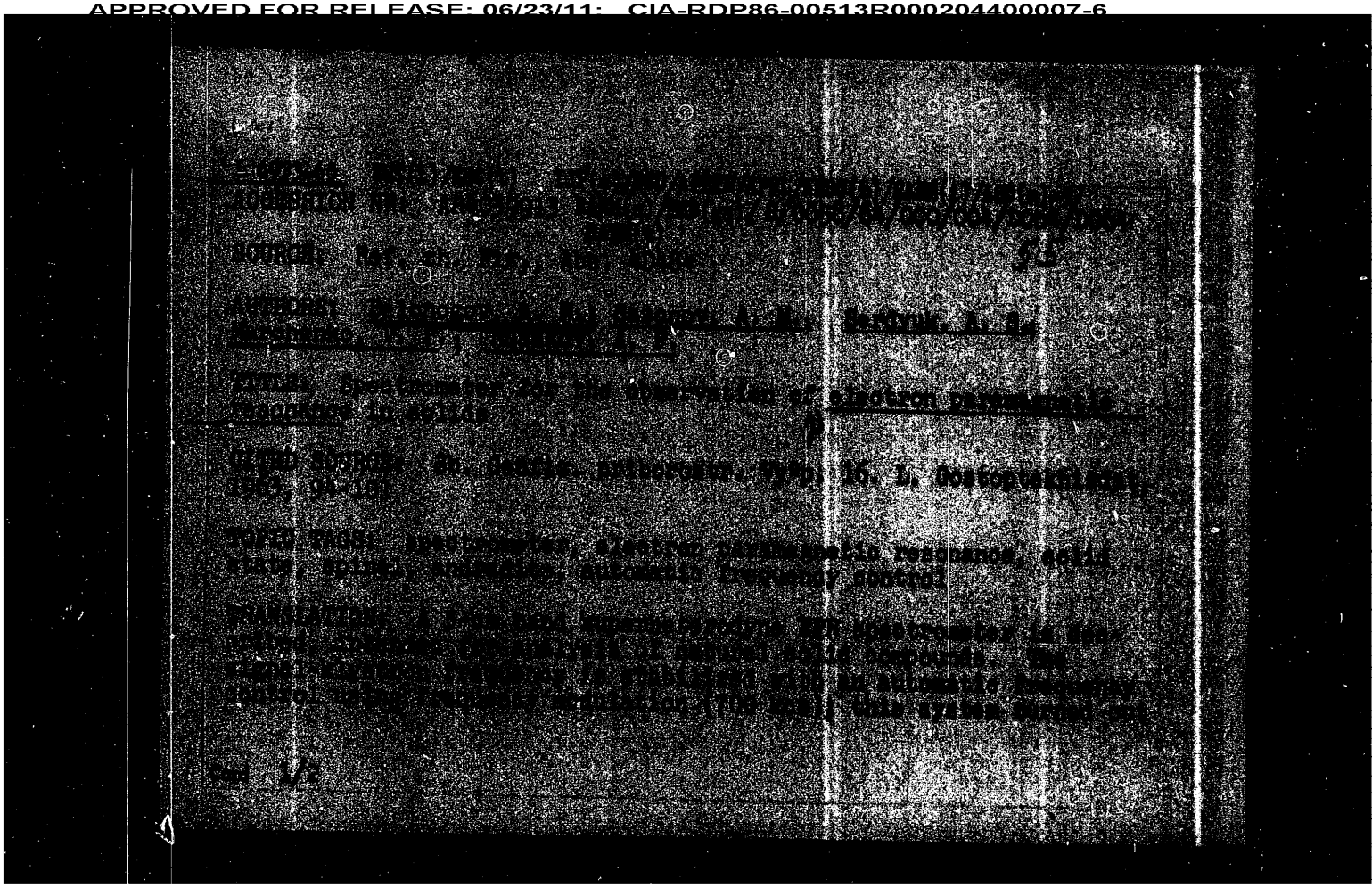
TEXT: Results are reported of a study of low temperature electron emission from the surface of dielectrics subjected to ionizing irradiation. Specially developed equipment with an open point counter, operating at atmospheric pressure, was used for recording the emission. At 360°C the intensity of emission was measured as about 1000 pulses/sec (natural background emission was 1 - 2 pulses/min.). When titanium-containing ceramics were irradiated with gamma rays, an emission maximum was observed which corresponded to the emission peak at 360°C from the surface of partially reduced rutile, previously observed by Bogun and others (emission peak was also observed in a Ti-ceramic aged in electric field). It is also shown that cera-

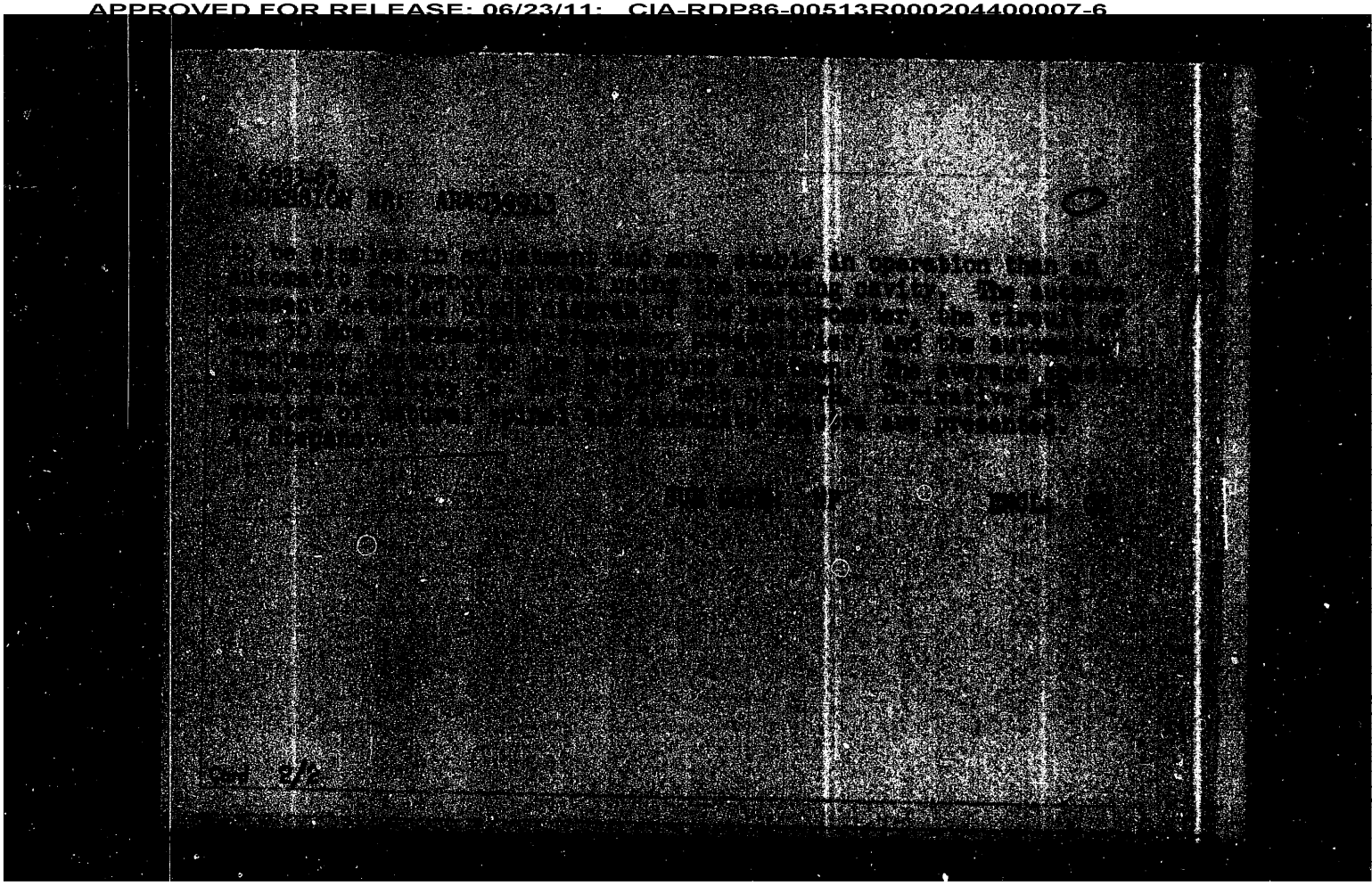
Card 1/2

Surface electron emission of ...

mic material with a sharp tendency to age in electric field, had an emission peak at 140°C whereas more stable materials had no such peaks. At temperatures around 450°C, emission was observed in all cases. It is noted that the mechanism of low temperature electron emission from flaws in dielectrics, caused by irradiation, has not been studied yet but latest data tends to indicate the recombination nature of the effect. [Abstracter's note: Complete translation]

Card 2/2





13538

S/196/62/000/023/005/006
E194/E155

AUTHORS: Belonogov, A.M., and Yevgrafov, A.A.

TITLE: The emission of electrons from surfaces of radioceramics irradiated with gamma rays

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.23, 1962, 13, abstract 23 B 69. (Izv. leningr. elektrotekhn. in-ta, no.46, 1961, 344-345)

TEXT: The emission of electrons from the TiO_2 dielectrics grades T-80 and T-150 irradiated with ionising radiation was studied. Gamma-irradiation of ceramics containing titanium caused an emission maximum corresponding to partial reduction of rutile. The emission was recorded by a device with open type point counter operating at atmospheric pressures. Ceramics which have been noticeably aged in an electric field display an emission peak (observed at 140 °C), but those not appreciably aged do not. However, at temperatures of the order of 450 °C emission is always observed. The procedure for measuring emission from the surface of irradiated ceramics can be used in capacitor manufacture to reject materials which are insufficiently stable to ageing.

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B/

ACCESSION NR: AR4036340 S/0169/64/000/003/G007/G007

SOURCE: Referativny*y zhurnal. Geofizika, Abs. 3G42

AUTHOR: Belonogov, A. M.; Sazonov, A. M.; Serdyuk, A. S.; Marchenko, V. N.; Rusakov, A. F.

TITLE: A spectrometer for observation of electron paramagnetic resonance in solid bodies

CITED SOURCE: Sb. Geofiz. priborostr. Vy*p. 16. L., Gostoptekhizdat, 1963, 94-101

TOPIC TAGS: geophysics, geophysical instrument, electron paramagnetic resonance, mineralogy, spectrometer

TRANSLATION: It is noted that a study of the spectra of electron paramagnetic resonance in minerals makes it possible to determine the presence and composition of paramagnetic impurities, the valence and ground state of a paramagnetic ion, the type of crystal lattice, and in a number of cases to explain certain other properties, such as color, conductivity, etc. The authors describe an electron

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ACCESSION NR: AR4036340

paramagnetic resonance spectrometer of the superheterodyne type designed for these purposes. The article includes a block diagram of this spectrometer and a brief description of the principal peculiarities of the apparatus by which it differs from earlier described instruments of this type. Circuit diagrams are given for the intermediate frequency preamplifier and the automatic tuner of the heterodyne klystron. The designed spectrometer has been used for a study of electron paramagnetic resonance in a number of natural compounds: spinel, corundum, beryl, apatite, sphene, cassiterite, etc. The measurements were made at room temperature by use of an electromagnet with a uniform magnetic field of at least 10^{-4} gauss/cm (the diameter of the pole pieces is 200 mm), which was fed from a current stabilizer with a stability of 10^{-5}. The instrument sensitivity was checked during the measurements using the signal from a standard specimen of diphenylpicrylhydrazil. The mean sensitivity of the spectrometer was approximately $5 \cdot 10^{-9}$ mole of diphenylpicrylhydrazil. As an illustration of the results of the measurements the authors cite and breifly discuss spectral derivative curves of electron paramagnetic resonance in spinel and andradite. A. Frolov.

DATE ACQ: 17Apr64 SUB CODE: AS ENCL: 00

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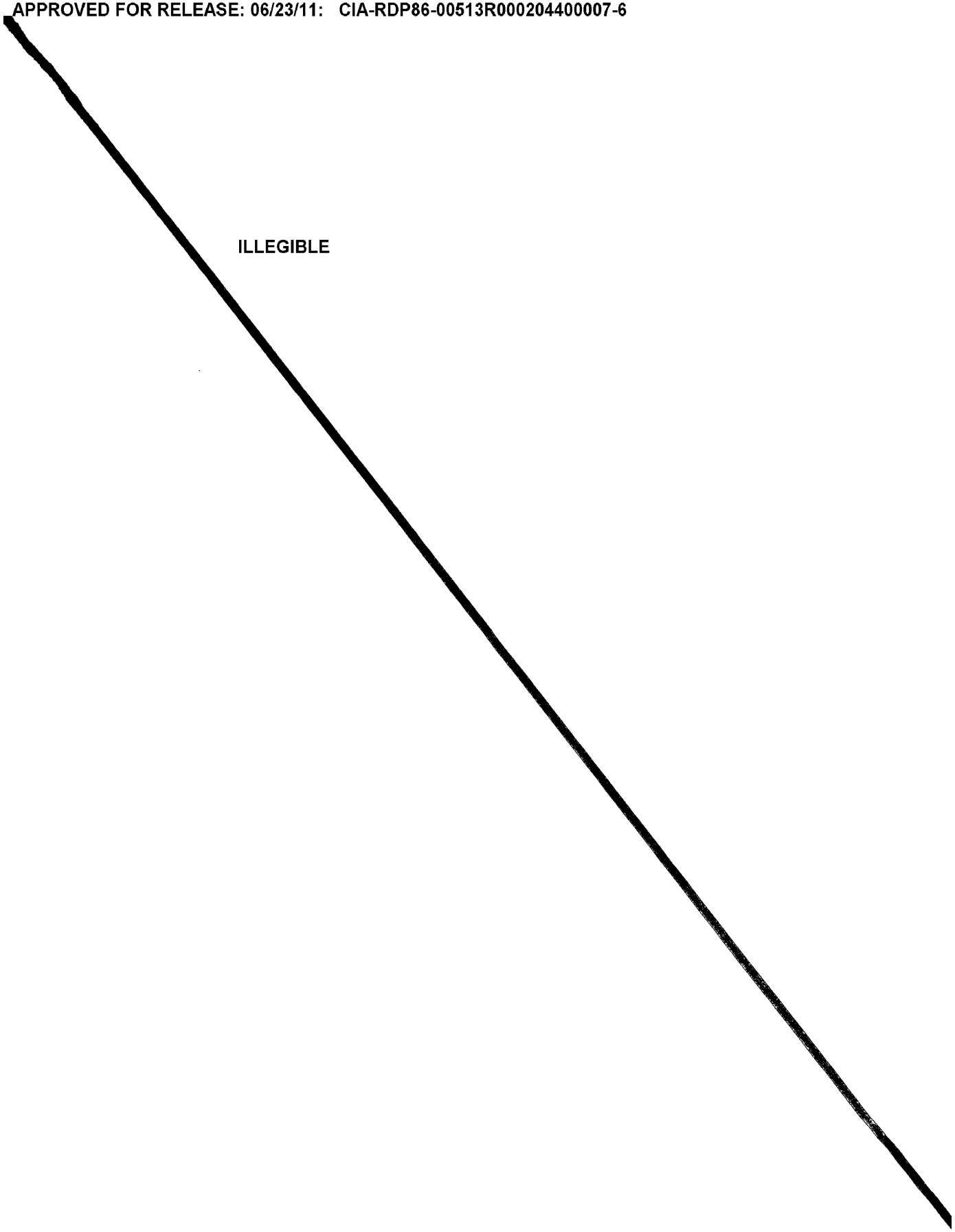

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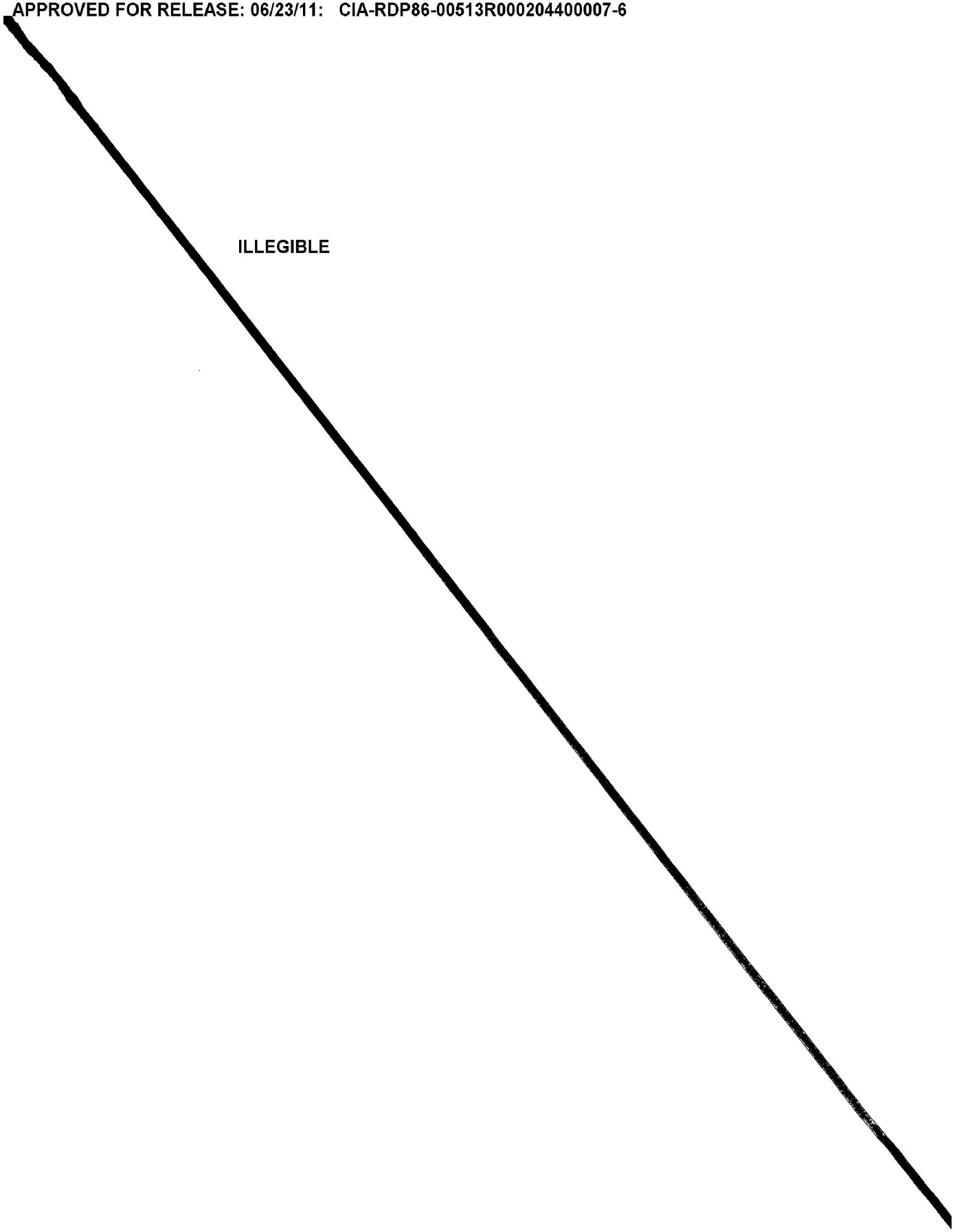

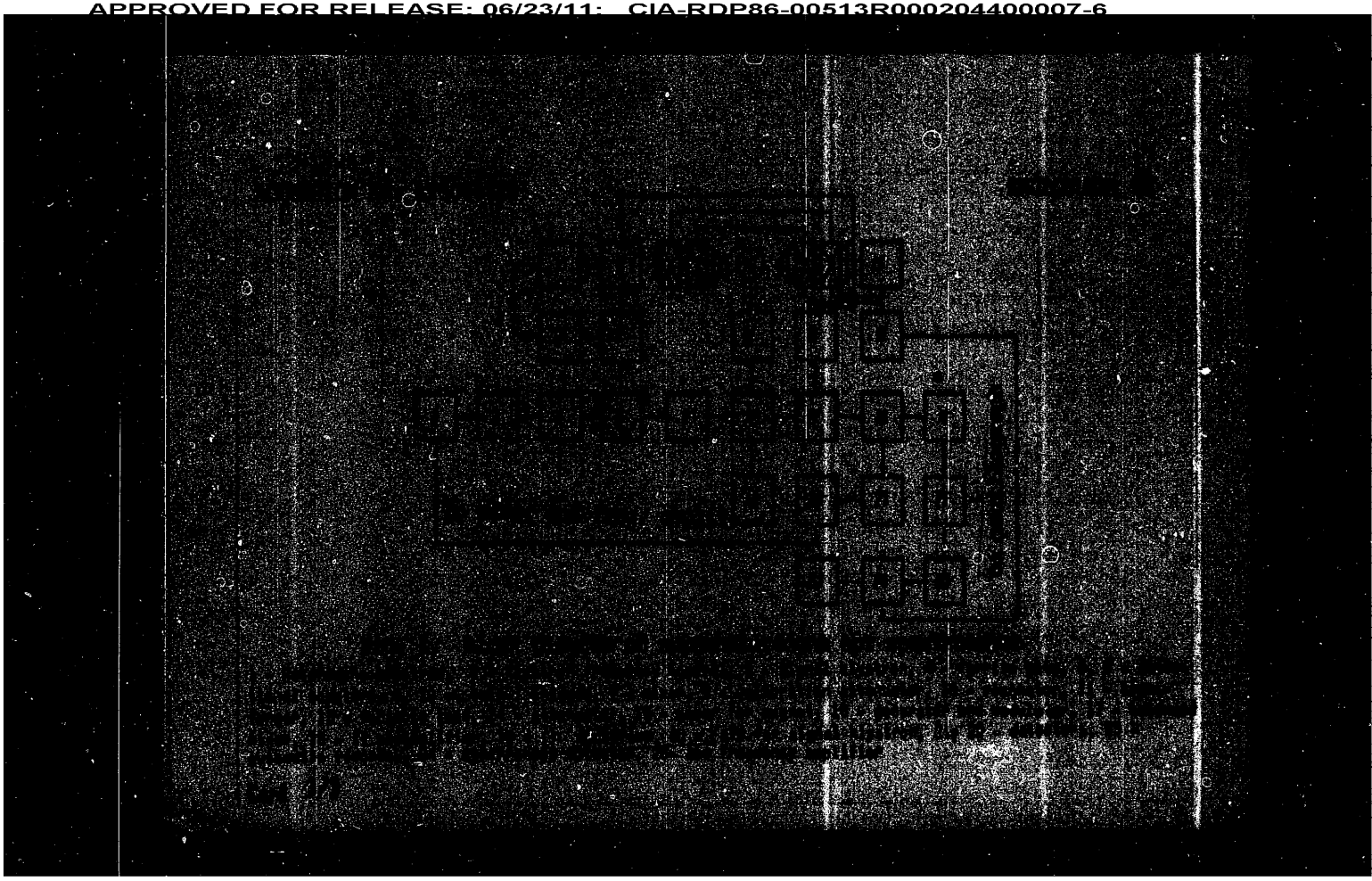

L 07457-67 EWT(1) IJP(c)

ACC NR: AP6034936 (A) SOURCE CODE: UR/0146/66/009/005/0003/0007

AUTHOR: Sazonov, A. M.; Belonogov, A. M.; Grigor'yev, S. B.; Strakhov, N. B.; Chernov, Yu. L. 32 B

ORG: Leningrad Electrotechnical Institute im. V. I. Ul'yanov (Lenin) (Leningradskiy elektrotekhnicheskiy institut)

TITLE: Spectrometer for the study of broad lines of nuclear magnetic resonance

SOURCE: IVUZ. Priborostroyeniye, v. 9, no. 5, 1966, 3-7

TOPIC TAGS: spectrometer, nuclear magnetic resonance

ABSTRACT: An all-purpose nuclear magnetic resonance spectrometer has been developed for qualitative and quantitative analysis of isotopic concentrations, for the study of ultrasonic resonance absorption in the nuclei of some alkali halide crystals, and for structural measurements of natural compounds. The device incorporates commercial-type components (see Fig. 1). The NMR detector includes crossed coils and direct absorption detectors which provide high sensitivity, and a broad range of hf field intensities. The detector can register the absorption signal or dispersion signal

Card 1/2 UDC: 535.322.2

L 07457-67

ACC NR: AP6034936

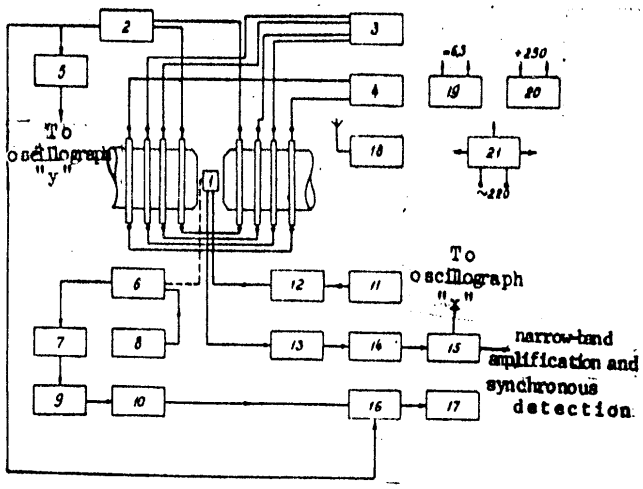

Fig. 1. Block diagram of nuclear magnetic resonance spectrometer

1 - NMR sensor; 2 - audio generator; 3 - device providing linear variation of magnetic field; 4 - current stabilizer; 5 - phase inverter; 6 - block of NMR detector; 7, 13 - hf amplifiers; 8, 14 - detector and voltmeter; 9 - calibrator; 10, 15 - audio amplifier; 11 - 5.2-mc crystal-controlled oscillator; 12 - power amplifier; 16 - synchronous detector; 17 - recorder; 18 - wave meter; 19, 20 - power sources; 21 - ferromagnetic stabilizer.

separately without distortion. The frequency range of the detector is 1—43 mc. Orig. art. has: 3 figures.

SUB CODE: 20 / SUBM DATE: 25Aug65/ ORIG REF: 003/ OTH REF: 001/ ATD PRESS: 5104

Card 2/2

SOV-120-58-1-6/43

AUTHORS: Belonogov, A. V., Zel'dovich, A. G., Kolganov, V. Z., Landsberg, L. G., Lebedev, A. V., Nikitin, S. Ya., Smolyankin, V. T., Sokolov, A. P.

TITLE: A Photographic Setup for Large Hydrogen Bubble Chambers (Sistema fotografirovaniya dlya bol'shikh vodorodnykh puzyr'kovykh kamer)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1958, Nr 1, pp 38-41 (USSR)

ABSTRACT: A photographic setup for hydrogen bubble chambers of large dimensions is quite different from that for Wilson and diffusion chambers. In particular, a gas bubble in liquid hydrogen scatters light mainly in the forward direction, most of it between 0 and 10°, say (cf Fig.1) so that it is impossible to photograph the tracks at 90° to the incident light as is done in the usual chambers. For small bubble chambers the photographs may be taken with direct transmission in which the source of light is on the one side of the chamber and the photographic camera on the other (Refs.3-5). However, it is very difficult to use this system with a large hydrogen chamber since it is desirable not to employ large glasses as it is difficult to mount these on the main body of the chamber. The present

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A Photographic Setup for Large Hydrogen Bubble Chambers.

authors have therefore developed a method of illuminating and photographing on one side of the chamber only. This method was tried on the working hydrogen chamber described in Ref.5 (this issue) and is shown in Fig.2. The back wall of the chamber was in the form of a spherical mirror, at the centre of curvature of which the source of light was placed. The light reflected from this mirror is focussed back again at the source and does not enter the objective of the photographic camera (B in Fig.1). The light which after reflection is scattered by the bubbles does enter the photographic camera and gives rise to the track images (Fig.3, facing p.39). The main disadvantage of this method is that in addition to the real images one gets the virtual images as well but these can be recognised by inspection or by a measurement of track co-ordinates by means of 2 stereophotographs (the virtual image lies behind the mirror). A calculation of the scattered light as a function of angle

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A Photographic Setup for Large Hydrogen Bubble Chambers.

the result of which is shown in Fig.1, is given in a mathematical appendix. There are 5 diagrams, no tables and 7 references, of which 4 are English and 3 Soviet.

SUBMITTED: June 3, 1957.

1. Bubble chambers--Equipment 2. Particles--Photographic analysis
3. Photography--Applications

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